

What is claimed is:

1. A processing unit for use in a stored program controlled system comprising a plurality of processing units, wherein communication among said processing units is effected by a free space beam line configured to contain optically encoded signals transmitted among said plurality of processing units, said processing unit comprising:
5 an aperture for passage of said beam line configured to permit installation and removal of said processing unit without blocking said beam line; and
means in said aperture connected to each of said plurality of units for receiving optically encoded signals from said beam line after installation of said processing unit.
- 10 2. A processing unit in accordance with claim 1 wherein said processing unit comprises a frame.
3. A processing unit in accordance with claim 2 wherein said processing unit including a removable portion so that said beam line is not blocked during installation.
- 15 4. A processing unit in accordance with claim 3 wherein said removable portion of said processing unit is configured to be replaceable after installation without blocking said beam line.
5. A processing unit in accordance with claim 2 wherein said means for receiving optically encoded signals from said beam line is movable to optimally
20 receive said optically encoded signals in said beam line.
6. A processing unit in accordance with claim 2 wherein said means for transmitting optically encoded signals into said beam line is movable to optimally transmit said optically encoded signals into said beam line.
7. A processing unit in accordance with claim 1 wherein said processing unit
25 comprises a board.
8. A processing unit in accordance with claim 7 wherein said board includes a second aperture.
9. A processing unit in accordance with claim 7 wherein said means for receiving optically encoded signals from said beam line is movable to optimally
30 receive said optically encoded signals in said beam line.
10. A processing unit in accordance with claim 8 wherein said board includes

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a second means for receiving optically encoded signals from a second beam line and is movable to optimally receive said optically encoded signals in said second beam line.

11. A method for installing and removing processing units in a stored program controlled system comprising a plurality of processing units, wherein communication
5 among said processing units is effected by a free space beam line configured to contain optically encoded signals transmitted among said plurality of processing units, said method comprising the steps of:

providing an aperture in said processing unit; and
installing said processing unit so that said beam line passes through said
10 aperture;
wherein said step of providing an aperture comprises:
providing an aperture that does not block said beam line during said step of installing.

12. A method in accordance with claim 11 wherein said processing unit
15 further includes a moveable portion, said step of providing an aperture that does not block said beam line during said step of installing comprising the substeps of:

moving said moveable portion out of the way of said beam line during installation; and
replacing said moveable portion after installation.

20 13. A method in accordance with claim 11 wherein each processing unit includes a movable probe, said method further including the step of aligning said probe in said beam line.